

UNITED STATES DEPARTMENT OF COMMERCE
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NEW YORK NY 10172

EXAMINER

ART UNIT	PAPER NUMBER
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2211

DATE MAILED: 10/29/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

- ☒ This application has been examined ☒ Responsive to communication filed on 9/16/96 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892. 2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449. 4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474. 6. ☐

Part II SUMMARY OF ACTION

1. ☒ Claims 1-12 + 13-45 are pending in the application.
Of the above, claims 13-45 are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-12 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received; ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other _____

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EXAMINER'S ACTION

Part III DETAILED ACTION

1. Amendment D, filed on 16 September 1996, has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-4, 7, and 8 are rejected under 35 U.S.C. § 103 as being unpatentable over Toda et al. Toda et al. disclose a camera (electronic endoscope) including: a physical element (see FIG. 43, liquid crystal iris 412) having a light transmission factor and a light transmission amount at least one of which is controllable (see col. 28, lines 52-60, iris diameter); a photoelectric conversion means (CCD 411) for receiving an optical image transmitted through said physical element at a position of an image plane, and for converting the optical image into an electrical image; and a correction means (white balance correction circuit 427) for correcting a

change of a physical characteristic in accordance with a change of at least one of the light transmission factor and the light transmission amount of said physical element (see col. 29, lines 35-42). Here it is understood that the white balance correction circuit 427 corrects the light transmission factor wavelength dependency of said physical element in accordance with a change in the light transmission factor characteristics of said physical element (see col. 29, lines 35-42). Consequently, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art that the white balance correction circuit of Toda et al. is at least a fully functional equivalent to the Applicant's claimed correction means as evidenced by Toda et al. suggestion of all of the Applicant's claimed functional limitations.

Referring to claim 2, Toda et al. disclose a camera wherein the correction means adjusts a correction amount of the wavelength dependance characteristics of the light transmission factor (see col. 29, lines 22-25).

Referring to claim 3, Toda et al. disclose a camera wherein the correction by the correction means is achieved by auto white-balance control (see col. 29, lines 22-25, white-balance correction circuit 427) of an output signal from said photoelectric conversion means.

Referring to claim 4, Toda et al. disclose a camera including all of the limitations of claim 1, as described above. It is unclear as to whether Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by changing the sensitivity of said photoelectric conversion means in accordance with a light wavelength. Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by changing the gain of the photoelectric conversion means in accordance with a light wavelength (see col. 29, lines 35-36).

Consequently, it is the position of the Examiner that the method of correction is functionally equivalent to the Applicants claimed method. As the Applicant has not shown this specific claim limitation to solve a problem, and present no novel, or unexpected result over the prior art, correction by the correction means by changing the sensitivity of said photoelectric conversion would be a matter of obvious design choice within the purview of one of ordinary skill in the art (see, *In re Kuhle*, 188 USPQ 7 (CCPA 1975)). Further, on page 31, line 20, the Applicant admits that this is not a critical design feature of the present invention.

Referring to claim 7, Toda et al. disclose a camera wherein the correction means includes a storage means (see FIG. 45, color correcting control circuit 432 includes color correcting memory 440) for storing the light transmission factor wavelength dependency of said physical element (see col. 31, lines 3-6).

Referring to claim 8, Toda et al. disclose a camera wherein the storage means stores a plurality of correction amounts (see col. 31, lines 9-12).

4. Claims 5, and 6 are rejected under 35 U.S.C. § 103 as being unpatentable over Toda et al. in view of Kley. Referring to claim 5, Toda et al. disclose all of the limitations of claim 4, as described above. It is unclear as to whether Toda et al. disclose the use of a filter as a means for correcting light transmission dependency of the physical element. Toda et al. disclose an endoscope including a white balance correction circuit 427 for correcting the light transmission factor wavelength dependency of said physical element in accordance with the light transmission factor characteristics of said physical element (see col. 29, lines 35-42). Kley discloses the use of

a filter (see FIG. 68, and col. 30, line 54 through col. 31, line 23, color unit 1164) for the control of the color of light transmission. The use of a color filter, such as the color control unit 1164, as disclosed by Kley, is functionally equivalent to the white balance correction circuit 427, as disclosed by Toda et al., for the purpose of color correction of the light transmission factor wavelength dependency of the physical element. It would have been obvious to use the color control unit 1164, as disclosed by Kley, instead of the white balance correction circuit 427, as disclosed by Toda et al., as the two elements are functionally equivalent.

Claim 6 is rejected for the same reason as claim 5.

5. Claims 9-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Tani et al. in view of Toda et al. Referring to claim 9, Tani et al. disclose a camera including: a physical element (see FIG. 1, diaphragm 12) arranged in a photographing optical system having a light transmission factor and a light transmission amount at least one of which is changeable; a photographic conversion means (imaging device 10) for receiving an optical image transmitted through said physical element at a position of an image plane, for converting the optical image into an electrical image signal, and capable of adjusting light accumulation time (see abstract, lines 13 and 14); and an exposure amount adjusting means (microcomputer 20) for controlling an exposure amount (see col. 4, lines 24-41, exposure amount K) by a combination of adjusting the light transmission amount (aperture value F), and the light accumulation time (shutter speed T). Tani et al. do not disclose a camera wherein the physical element (diaphragm 12) is changeable non-mechanically. Toda et al. disclose a physical element (see FIG. 43, liquid crystal iris 412)

that is changeable non-mechanically. It would have been obvious to use the liquid crystal iris, as disclosed by Toda et al., instead of the diaphragm, as disclosed by Tani et al., as these two elements are art recognized equivalents.

Referring to claim 10, Tani et al. disclose a camera wherein the exposure amount adjusting means electrically adjusts the light transmission amount. Here it is noted that microcomputers, such as microcomputer 20, are known to be electrical.

Referring to claim 11, Tani et al. disclose a camera wherein the exposure amount adjusting means adjusts the light transmission amount in accordance with the incident light (see abstract, lines 5-14).

Referring to claim 12, Tani et al. disclose a camera wherein the exposure amount adjusting means comprises storage means for storing at least one relationship between at least one of the light transmission amount and the accumulation time of the photoelectric conversion means (see col. 5, lines 27-55, here it is noted that the charge accumulation time depends on the shutter speed (see abstract, lines 13 and 14)).

Response to Amendment

6. Applicant's arguments, filed on 16 September 1996, have been fully considered but they are not persuasive.

7. Referring to page 4 of amendment D, filed on 16 September 1996, the Applicant alleges that Toda et al. fail to disclose performing spectral transmission correction based on a

transmission factor or a light transmission amount, and that rather Toda et al disclose performing spectral transmission correction based on change in the iris diameter. The Examiner respectfully disagrees. Referring to column 29, lines 35-42, Toda et al. disclose "a white balance correction circuit 427 that controls the gain of the color signal level...so that, even in the case the transmittivity (iris value) of the iris 412 varies, the spectral transmittivity variation by the variation of the iris value [i.e., transmittivity] may be corrected.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Day whose telephone number is 703/305-4941. The examiner can normally be reached on Monday-Friday, from 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached by phoning 703/305-4704. The Fax phone number is 703/308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703/305-4900.

October 28, 1996

**MICHAEL DAY
PATENT EXAMINER
GROUP 2200**



**MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
GROUP 2200**

